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DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Yellowstone... NATIONAL PARK

FILE NO. 143

MONTHLY REPORT

April, 1925.

APRIL, 1925.

May 5, 1925.

Dear Sir:

The following is my report on conditions in Yellowstone National Park and on the operation of the Park for the month of April, 1925:

I. GENERAL CONDITIONS

Weather

The following records are quoted from the report for April of the Observer in charge of the local United States Weather Bureau at Mammoth Hot Springs, Park headquarters:

The month as a whole was warm with about 40% more moisture than the average April.

TEMPERATURE: Monthly mean, 40.2° , is 3.2° above normal, and the highest for the past 10 years. The first 17 days were decidedly warmer than the seasonal average, while the remainder of the month was somewhat colder than normal. The highest temperature was 64° on the 11th, and the lowest 21° on the 28th.

PRECIPITATION: Total, 1.95 inches, is 0.57 inch above normal, and the greatest since 1917. Showers or light snow occurred at frequent intervals through the month.

SNOWFALL: Total 5.9 inches; normal 8.1. Snow occurred on 13 days, and melted soon after falling, therefore the ground was practically bare the entire month.

WIND: Average hourly velocity 8.1 miles; normal 8.1. Highest velocity was 41 miles per hour from the southwest on the 17th.

SUNSHINE: Percentage of possible 51; normal 57.

General Road Conditions

Road conditions between Gardiner and Mammoth are good. The road to Tower Falls, Buffalo Ranch and Cooke City is now open to restricted auto travel as far as Soda Butte. There is considerable snow in "the gut" but the road is otherwise hard, dry and comparatively smooth except at a few points where surface moisture has accumulated. These points have been greatly improved during the past week.

The Yellowstone Park Camps Company is extremely anxious to transport a crew of workmen to Canyon, and in this connection they have recently attempted to open the road between Mammoth and Norris. However, upon reaching a point near the 7 Mile Bridge they decided to abandon the attempt until the snow depths have further diminished; their decision was largely influenced by the recently reported snow depths between Norris and Canyon. None of the park roads except as herein noted are open to travel.

<u>Station</u>	<u>1924</u> <u>Inches</u>	<u>1925</u> <u>Inches</u>
Lake	19	29
Snake River	30	30
Sylvan Pass	drifts	16
Riverside	12	drifts only
Gallatin	20	15
Slough Creek, Upper Ranch	--	6
Slough Creek, Lower Ranch	--	drifts only
Canyon	20	30
Bechler River	35	42
Soda Butte, Upper Station	30	24
Old Faithful	drifts only	drifts only

There is 40 inches of snow on the Norris-Canyon Divide. Snow depths in Sylvan Pass are from 5 to 6 feet with drifts ranging up to 20 feet or more. Snow depths on the West Side have diminished rapidly; 8 inches is the maximum depth on the highway between West Yellowstone and Madison Junction and much of the road is bare. The snow depths are somewhat greater in the highways from Madison Junction to Norris and Old Faithful but these roads can be opened up with comparative ease whenever occasion requires.

Travel

There has been an unusual number of visitors to Mammoth Hot Springs during the month. The approach road to the North Entrance has been in good condition for several weeks and the moderate weather

conditions have stimulated local travel; this is particularly noticeable on week-ends. Park visitors have not been required to register thus far but the ranger at the North Gate has kept as careful a check on the travel as his other duties would permit, and the report thus submitted accounts for a total of 412 auto visitors traveling in 132 cars; the total of the miscellaneous travel is 72; total travel for the month 484.

The pre-season travel to date reads as follows: Cars, unclassified 293. Park visitors, unclassified 1181.

II. ADMINISTRATION OF THE PARK

Personnel

On April 1 there were 63 employees on the payrolls, and on April 30 there 63. The following list shows the number of appointees of various classes serving during the month, with a general statement of the kind of work in which they were engaged:

<u>No.</u>	<u>Class</u>	<u>Kind of Work Performed</u>
1	Superintendent	General administration and supervision of all activities in the park.
2	Asst. Superintendents	1 in charge of administration, purchasing, disbursing; 1 in charge of property, equipment, transportation, cost accounts, inventories, etc., also acting as Assistant to Superintendent in capacity as Field Asst. to the Director.
2	Asst. Engineers	1 in charge of engineering work; 1 assisting.
4	Clerks	1 Cost Accounting Clerk; 1 Personnel and File Clerk; 1 Clerk on orders, proposals and vouchers and time-keeping and payroll work; 1 stenographer-typist on Superintendent's correspondence and handling miscellaneous work on administrative side of office.
3	Electricians	Operated power plant regular shift, including Sundays, read meters, did necessary line work.
3	Foremen	1 in charge of headquarters corral and freighting work about headquarters; 2 on work in shops.

3 Telephone switchboard operators	2 temporary WAE operators, regular shifts; 1 permanent operator (on furlough).
1 Master Mechanic	In charge of shops and of repair to machinery.
2 Blacksmiths	General blacksmith work, including shoeing of horses in shop, repairing tools and equipment.
1 Master Plumber	In charge of general plumbing and water and sewer systems.
1 Master Painter	General shop work including painting equipment and buildings.
2 Auto Mechanics	1 on duty in power plant; 1 on repair work.
3 Laborers	Teaming, freighting, assisting mechanics and miscellaneous work at headquarters.
1 Steward & Master of Transportation	In charge of all transportation and of storehouses.
1 Chief Buffalo Keeper	In charge of Lamar Buffalo Herd.
1 Asst. Buffalo Keeper	In charge of hay ranch operations at Slough Creek.
1 Buffalo Herder	Assisting buffalo keeper.
1 Park Naturalist	Scientific research work and developing museum.
1 Chief Park Ranger	In charge of ranger force.
1 1st Asst. Ch. Park Ranger	In charge of Northern District.
2 Assts. Ch. Park Ranger	1 on duty at Lake District; 1 in charge of Western Supervisory Territory.
22 Park Rangers (17 WAE)	Patrolling, protecting game and miscellaneous duties.
4 Park Rangers, temporary, (3 WAE)	Patrolling, protecting game and miscellaneous duties.

Leaves of Absence

Eri A. Allan, Electrician, April 18, 1 day.
Eri A. Allan, Electrician, April 25, 1 day.
Clifford Anderson, Park Ranger, April 25-30, 5 days.
David E. Andrew, Park Ranger, 25-30, 5 days.
John Bauman, Park Ranger, 2-15, 12 days.
Earl S. Bowman, Park Ranger (Sick) 1-13, 13 days.
Earl S. Bowman, Park Ranger, April 14-27, 14 days.
Charles Brant, Master Transportation, April 9-13, 4 days.
Edward J. Bruce, Park Ranger, April 1-9, 8 days.
Forest L. Carter, Asst. Chief Park Ranger, April 25-30, 5 days.
Lee Cottrell, Park Ranger, 1-2, 2 days.
John Delmar, Jr., Park Ranger, April 17-30, 12 days.
Carl N. Dunrud, Park Ranger, 11-30, 17 days.
Andrew R. Edwin, Clerk, April 10 (noon), 1/2 day.
Andrew R. Edwin, Clerk, April 11, 1 day.
Andrew R. Edwin, Clerk, 23-26, 3 days.
Michael Z. Ferguson, Park Ranger, April 10-11, 2 days.
Roy T. Frazier, Park Ranger (Sick), April 6-17, 12 days.
Warren Hutchings, Assistant Buffalo Herder, April 1-15, 13 days.
Arthur Jacobson, Park Ranger, April 10-30, 18 days.
Harry J. Liek, Park Ranger, April 1-8, 7 days.
James McBride, Park Ranger, April 2-28, 23 days.
Anna E. Madsen, Clerk, April 18, 1 day.
August C. Neumann, Master Painter, April 1-7, 6 days.
Joseph Nortman, Park Ranger, April 1-3, 3 days.
Edward E. Ogston, Park Ranger, April 14-24, 10 days.
Walter J. Reimann, Park Ranger, (Sick), April 1-11, 11 days.
Walter J. Reimann, Park Ranger, April 13-30, 16 days.
Robert Robinson, Auto Mechanic, April 25 (noon), 1/2 day.
Edmund J. Sawyer, Park Naturalist, April 11 (noon)-14, 2-1/2 days.
Julia S. Stockett, Clerk, April 8-30, 20 days.
Harry Trischman, 1st Asst. Chief Park Ranger, April 1-11, 10 days.
Birt Vink, Blacksmith, April 3-11, 9 days.
Kenneth C. Wahl, Park Ranger, April 6-22, 15 days.
Deate T. White, Foreman, (Sick) April 10-18, 9 days.
William Wiggins, Master Plumber, April 30, 1 day.
Roby Roy Wisdom, Park Ranger, April 25-30, 5 days.
Sam T. Woodring, Chief Ranger, April 11 (noon), 1/2 day.

Leave Without Pay

Nellie Roach, Telephone Operator, April 1-30.

Furloughed

Earl S. Bowman, Park Ranger, April 28, 1925.

Services terminated

Mrs. Aleda Joffe, temporary Telephone Operator, April 30, 1925.

Appointments

Birt Vink, Blacksmith, at \$1560 and quarters, probational, e.o.d. Apr. 20.

Office Force Activities

During the month of April 1297 pieces of official mail were received and 1539 were sent out.

Six circulars were issued during the month, copies of which are attached.

Finances

Costs of Operation, etc.: The cost of operating the park for the month of April will be shown on the Monthly Cost Accounting Report which will go forward as soon as prepared.

Revenues:

Sale of Electricity:

Certified check #917, dated April 10, 1925, drawn by Vernon Goodwin on the National Bank of Montana, Helena, Mont., to The Director, National Park Service, amount.....\$ 3.82

Certified check #1195, dated April 22, 1925, drawn by H. W. Child on the National Bank of Montana, Helena, Mont., to The Director, National Park Service, amount..... 1.79

Certified check #531, dated April 17, 1925, drawn by Freda Whittaker on The National Park Bank of Livingston, Mont., to The Director, National Park Service, amount..... 2.50

Total \$ 8.11

Plans, Maps and Surveys

Work done in the Engineer's office during the month was mostly in connection with the road improvement projects; also making plans and preparing estimates for spring and summer maintenance work.

Report on Commissary and Transportation

The Commissary employees were engaged in arranging stock in storehouse, building more shelves, etc. The necessary freighting between Gardiner and Mammoth was accomplished by the Transportation Dept.

III. MAINTENANCE OF IMPROVEMENTS AND FACILITIES

Grounds

Necessary work, such as hauling wood, coal, ice and garbage was done in this department.

Roads, Trails and Bridges

Mammoth-Gardiner Road: A log revetment was constructed at a point about midway between Mammoth and Gardiner to prevent the river from encroaching further into the roadway. It was feared that another high water would carry away a section of roadway unless preventive measures were taken. The revetment is five logs high and 120 feet long, and is backfilled with rock. We disliked very much the necessity for this type of work but due to the meager fund available there was no other alternative.

A four-horse grader outfit worked three days on this section to put it in a more passable condition for spring use.

Electrical and Telephone Systems

The Electrician put in conduit and wiring for 6 lights in plumbing shop; installed electric stove and hot water heater in Edwin's quarters; put in wiring for lights in bakery shop quarters and put in baseboard plugs in same quarters. Also put in wiring for 5 additional lights in new postoffice.

The Power Plant was operated in the usual manner. It was run constantly with the results shown in comparison with those of April, 1924, as follows:

	<u>1924</u>	<u>1925</u>
Total current generated, in KWH	39,490	41,060
Of this, sold to public operators at 5¢ per KWH	3,089	1,715
Consumed for street lighting	1,129	2,357
Balance, consumed in government buildings, for power and lighting, and lost on lines in transit	35,272	36,988
Peak load during month in KWH	84	88

The Telephone and Switchboard office was open daily from 7:30 A.M. to 8:30 P.M. The total business handled was as follows:

	<u>1924</u>	<u>1925</u>
On Government local lines.....	2417	3512
On Hotel Company lines.....	290	412
On Long Distance connections.....	154	235
	<u>2861</u>	<u>4159</u>

Water and Sewer Systems

The work of the plumbing department during the month consisted of the following: General care and maintenance of sewer and water system at Mammoth; installing roughin for sewer and water in bakeshop building; building shower building in public auto camp and connecting same to sewer and water; making changes in laundry building for shower building; installing plumbing in hospital; building smokestacks and repairing roofs on McFarland's house and bakeshop building.

Machinery and Equipment

Four trucks and 4 cars were overhauled in the garage during the month. The Master Mechanic and his helpers overhauled a steam shovel and made repairs on caterpillar and air compressor.

The Blacksmith did mostly horseshoeing; he made repairs to equipment and overhauled a big mixer.

The Master Painter painted and varnished the following: 3 Reo trucks, 1 Quad truck, 2 F.W.D. trucks (sprinklers), 1 Dodge touring car, 6 sprinkler wagons. He lettered and numbered all trucks and dump wagons; made and painted several signs and put glass in windows in several quarters.

IV. CONSTRUCTION OF IMPROVEMENTS.

Roads, Trails and Bridges

Of the fund designated as Roads & Trails 1924-5, the sum of \$30,000.00 is allocated to Yellowstone National Park as follows:

PROJECT #6 - Widening along Firehole River.....	\$ 6,000.00
PROJECT #9 - Reconstructing and Surfacing Sections of the Mammoth-Tower Falls Road.....	24,000.00
Total.....	\$ 30,000.00

PROJECT #6 - WIDENING ALONG FIREHOLE RIVER

Nothing has been done on this project, nor is it likely that any work will be attempted before June 1st because of snow conditions. The work will be done by force account.

PROJECT #9 - RECONSTRUCTING AND SURFACING SECTIONS OF THE MAMMOTH-TOWER FALLS ROAD

This project will be done by force account. On April 13th work was begun on the first unit of this project by widening with the steam shovel four narrow places in the roadway between Mammoth and the Gardiner River bridge. Most of the excavated material was hauled with dump wagons and used to widen embankments.

On April 20th a camp was established at Lava Creek and work begun on the Undine Grade widening, designated as Unit #1 of Project #9. Following is an estimate of quantities for Unit #1:

Earth excavation.....	271 cu. yds.
Loose rock excavation.....	1970 cu. yds.
Solid rock excavation.....	6893 cu. yds.
12" C.M.P. culvert in place.....	204 lin. ft.
18" C.M.P. culvert in place.....	90 lin. ft.
24" C.M.P. culvert in place.....	40 lin. ft.
Masonry retaining wall.....	604 perch
Pit run surfacing material.....	3000 cu. yds.

Following is an estimate of work done in April:

Loose rock excavation.....	506 cu. yds.
Solid rock excavation.....	802 cu. yds.
12" C.M.P. culvert in place.....	36 lin. ft.
18" C.M.P. culvert in place.....	30 lin. ft.

On April 30th the crew engaged on this work consisted of the following employees:

1 Foreman	1 Cook
1 Flunkey	1 Steam Shovel Operator
1 Steam Shovel Fireman	2 Pitmen
1 Compressor Operator	2 Jackhammer men
1 Truck Driver	1 Graderman
1 Powderman	1 Four-horse teamster
3 Two-horse teamsters	1 Axeman
6 Laborers	5 Teams

The amount of yardage moved is small for the two weeks the steam shovel operated, but during that time several moves were made, camp was established and for several days snow and generally adverse weather conditions prevailed.

At the end of the month both men and equipment were functioning well, so with favorable weather we expect to have the Undine Grade Widening well along toward completion by June 1st.

Gasoline Storage Tank

A steel gasoline storage tank, 8 feet in diameter and 32 feet long, having a capacity of 12,000 gallons, was erected at Gardiner on a site leased from the Northern Pacific Railway. The tank rests on six concrete piers each 12 inches wide, four feet high and 23 feet long. The piers were made sufficiently long to provide for another tank of equal size. This particular site was selected as it permitted the tanks to be so located as to provide a gravity flow from the railway car into the storage tanks and from the storage tanks into the gas trucks. A concrete slab 10 feet wide and 14 feet long was placed to provide a solid place for the gas trucks to stand while filling. A roadway was excavated from the street to the concrete filling stand.

V. PROTECTION DEPARTMENT.

The regular patrols were made from all stations and good conditions are reported at all points.

Special telephone patrols were made between Riverside and Norris and between Lake and Sylvan Pass; road conditions and snow depths were particularly noted and fully reported. A full report was also had late in the month on road conditions and snow depths between Mammoth and Lake.

A thorough special patrol of the entire North District was had in connection with the elk count of the 18th to 25th hereinafter reported.

A new log cabin, 15' x 30', is being erected by the Chief Ranger and his assistants at the juncture of Blacktail Deer Creek and the Yellowstone River. This building is primarily intended as a headquarters station for our predatory animal hunter in winter. It will enable him to conveniently cover the Crevice Basin, Cottonwood and Hellroaring Districts and enlarge his opportunities immensely as this is one of the most frequented predatory animal areas of the park. The work on the cabin was begun on the 29th. It will be completed early in May. This work will be done entirely by rangers.

Other activities at headquarters have consisted of repairs to halters, bridles, saddles, pack equipment, etc. General cleanup work is under way at all stations.

The routine work of the ranger office is well in hand. All paper work preliminary to the season's activities is being carefully done. The ranger personnel for the summer season has been selected and all applicants for ranger appointments have been notified as to the action taken on their applications. Questionnaires and form letters were mailed to approximately 400 applicants. 99 formal applications were on file at the time selections were made. The ranger lineup as now constituted will include 29 members of the regular force, 35 men who were on the force last year and 19 new appointees, total 83.

Wild Animals

Forage Conditions: Forage conditions have improved rapidly throughout the month. The snow has disappeared from all the lower levels uncovering abundant forage which is literally carpeted with a recent growth of new grasses; this growth follows the snow line closely and the areas of green forage are rapidly increasing. The forage question will cause no further concern this season.

Elk: Elk conditions are good; some losses have occurred during the month but they were slight when compared with those of the month preceding. They are gradually regaining their normal strength and vigor and no further losses of consequence are anticipated.

The losses during the month are indicated as follows:

Winter Kills: Gallatin District, 18 calves and 7 bulls, Lower Slough Creek, 2 cows, 4 calves, and 1 bull, total winter kills for the month 22 calves, 2 cows and 8 bulls, making an aggregate of 38. One cow and 5 calves were killed by a bear in the Bechler River District; the total losses from all causes during the month is 44.

The losses throughout the fall and winter season within the park and at points adjacent thereto are indicated as follows: Losses occasioned by hunters 1280; winter kills, consisting of 194 calves, 107 cows and 46 bulls, total 347; shipments 56; unlawful killings by tooth hunters in the Gardiner-Jardine District, outside the park 8; losses resulting from accident 6; killed by a bear 6; grand total of the reported losses from all causes 1703. This figure corrects an error of 1 in the January report, and an error of 20 in the February report, the error in each case having to do with the total of the season's losses.

The total of the reported winter kills in the Gallatin herd, which is included in the above figures, is 58. One hundred and eighteen of the winter kills above noted have not been previously reported; they were observed at remote points during the course of the recent elk count and were reported without reference to the date of the loss.

A full count of the northern elk herd was made by the Chief Ranger and his assistants on the 18th to 25th inclusive, and is reported in detail as follows:

	COWS	CALVES	BULLS	TOTAL
North fork of Deep Creek	75	25	20	120
Horseshoe Bend in Lamar Valley	240	75	24	339
Mail box on Lamar River	77	10	18	105
Upper Meadows at Buffalo Ranch	38	8	10	56
Divide between Buffalo Ranch and Slough Creek	32	10	10	52
Junction of Lamar River and Slough Creek	55	13	10	78
Bison Peak Slope	415	105	80	600
Side of hill northeast of mail box	216	54	20	290
Mount Norris and Cache Creek	175	58	70	303
Pebble Creek, Soda Butte	745	140	200	1085
Pebble Creek to Soda Butte Station (Upper Station)		10	10	20
Lower Slough Creek Hay Ranch	20	10	25	55
Upper Slough Creek Hay Ranch	29	8	12	49
Foot of hill at Slough Creek	30	10	25	65
From Slough Creek to Hellroaring Slope	826	200	350	1376
Hellroaring Slope to Coyote Creek	559	340	375	1274
Cottonwood to Decker's Ranch	478	150	200	828
Tower Falls to Blacktail	2231	400	600	3231
Between Agate and Deep Creeks	159	50	97	306
Antelope Creek	1		14	15
East side of Mt. Evarts	400	100	150	650
Outside the park on east side of Yellowstone River	124	16	10	150

Elk Count, Cont'd.

	<u>COWS</u>	<u>CALVES</u>	<u>BULLS</u>	<u>TOTAL</u>
East of Osprey Falls			57	57
Mammoth District	507	150	400	1057
Outside the Park on West Side of Yellowstone River	192	35	40	267
Central Area of the Park including the Madison and Firehole Rivers, Norris, Hayden Valley and Upper Yellowstone country	250	50	200	500
Buffalo Corral, Mammoth Hot Springs	10	6	4	20
Total	<u>7884</u>	<u>2033</u>	<u>3031</u>	<u>12948</u>
Plus additions of 10 per cent allowed for all that escaped observation and not included in the above actual counts	788	203	303	1294
Total of north side elk (exclusive of the Gallatin herd, which is).....	<u>8672</u>	<u>2236</u>	<u>3334</u>	<u>14242</u>
			3000	3000
Grand Total.....				<u>17242</u>

Deer: The deer have passed the winter in good shape. Frequent counts have been submitted throughout the season by rangers on patrol and a careful survey of these reports indicate the following maximum counts: Hellroaring District 127, Antelope Range - outside the park - 138, Mammoth-Gardiner District 129, Tower Falls District 26, Sylvan Pass District 5, Gallatin 4, Knowles Cabin to Cottonwood 81, Madison Junction 7, Excelsior Geyser Basin 16, Upper Geyser Basin 32, Slough Creek to Hellroaring 19, Soda Butte District 18, total 602.

The reported losses for the season are as follows: Killed by hunters at points adjacent to the park 56, losses resulting from accident 4, coyote kills 25, winter kills 6, total 91.

The estimated total for the entire park area on September 30th, 1924, was from 1500 to 1800. The above counts on deer were in connection with the regular ranger patrols; no concerted effort being made at any time to procure a full count.

Antelope: The condition of the antelope herd is highly satisfactory. They have wintered remarkably well. Their range was patrolled daily prior to their return to the park and the losses were slight. The entire season's losses consisted of 2 coyote kills and 2 winter kills, total 4. Practically the entire herd has moved up to their summer range. The females are heavy with kid and the herd total will be materially increased during the course of the next few weeks. A special patrol of the antelope range was conducted by the Chief Park Ranger on March 23rd, and the largest count of recent years was had. The reported herd total on this day was 417.

Sheep: The sheep counts submitted from time to time throughout the season by rangers on patrol indicate the following maximum counts in

the districts hereinafter mentioned: Hellroaring 35, Junction Butte 83, Mt. Norris 22, Mt. Evarts 21, Specimen Ridge 18, Hellroaring to Tower Falls 6, Bison Peake 7, Abiathar Peak 3, total 195. This total is considered to be less than one-third of the actual number of sheep in the park. They frequent areas that are remote and inaccessible and with the exception of a few small bands they are shy and unapproachable. Certain favorite accessible points where they have heretofore frequented in winter were in large measure abandoned during the past winter season with the result that our sheep counts are somewhat below the total of last year.

The losses reported for the season at points adjacent to the park are as follows: Killed by hunters in the Sylvan Pass District 5; unlawful kills by hunters in the Hardiner District 1, total 6. The estimated sheep total for the entire park area on September 30, 1924, was 600.

Moose: Frequent reports on moose have been had throughout the season from the various station districts indicating the following maximum counts: Upper Yellowstone District 65, Junction of Cache Creek and Lamar River 5, Sylvan Pass District 16, Gallatin District 9, Riverside District 7, Snake River District 7, Bechler River District 22, Tower Falls District 14, Upper Slough Creek District 13, Willow Park District 4, Bear Creek, - south district 2, Amphitheatre Creek 4, Indian Tepees on Mammoth-Tower Falls road 2, total 170. This is considerably in excess of the total counts submitted last spring and confirms the estimated total of 450 submitted last fall. No losses have been reported throughout the fall and winter season.

Buffalo:- Lamar River Herd: In view of the fact that the recent report of the Chief Buffalo Keeper is at variance with preceding monthly reports a full statement of the discrepancies with causes for same is essential and it is given in detail as follows:

The report of the Chief Buffalo Keeper dated April 9, 1925, places the herd total at 644; this total consists of 162 bulls, 161 steers, and 321 cows. The calf crop of last year is included in these figures.

Reference to preceding monthly reports dating from January 1924 to March 1925 indicate a herd total of 669 and disclose a discrepancy of 25; this discrepancy is accounted for as follows:

Early in January 1924 at the conclusion of a visit and inspection of the herd by a representative of the Bureau of Animal Industry the Chief Buffalo Keeper submitted what purported to be a full count of the herd; this total was 633. Simultaneous with this report Rangers Finch and Ogston who were stationed at the Upper Soda Butte Station reported a band of 27 buffalo on Miller Creek which they considered had strayed from the Main Herd at the Buffalo Ranch.

The Chief Buffalo Keeper was promptly notified and efforts were immediately made to round them up and bring them down to the ranch but without success. The circumstances connected with these two reports, together with the reported efforts of the Chief Buffalo Keeper to round up this so-called stray band, prompted the clerk in the office to the

conclusion that they had in fact strayed away from the Main Herd at the Ranch and had not been included in the total count of 633 and they were therefore added to the total of the Lamar River Herd, bringing the full count of record to 660. The 1924 calf crop was 120 which increased the record total of the herd to 780.

All succeeding monthly reports have been based on this figure. This fact was considered in connection with the report of the Chief Buffalo Keeper dated April 9th, 1925, and since it appears that an error was committed when the so-called stray band was added to the total of the Lamar River Herd the discrepancy is being corrected by deducting this figure from the herd total and by eliminating a loss of 1 winter kill erroneously reported in December and a winter kill reported in March which should have been reported in connection with the Cold Creek-Pelican Flats Herd, The corrected figures will read as follows:

January 1924 herd total 633, plus the 1924 calf crop of 120, making a total of 753 at the beginning of the fall season of 1924.

The losses during the fall and winter seasons are as follows: Shipments 86, losses from accidental causes 5, winter kills 1, killed by authority of the Director 17, total 109, leaving a herd total at this time of 644.

Those that were killed by authority of the Director consisted of 9 bulls, - outlaws and cripples - 7 steers, - killed for the market -, and 1 calf with a broken leg, total 17. In addition to the above total 15 calves have arrived during the month.

Buffalo feeding was concluded on April 4th and the main herd is now ranging on the slopes of Mt. Norris.

Buffalo - Cold Creek-Pelican Flats Herd: The Cold Creek district, including Cache and Miller Creeks was covered at regular monthly intervals throughout the winter season by rangers from the north side. The bands in this district were small and widely scattered and the counts varied considerably. The maximum count for the season was 33. The Pelican Creek district was covered at monthly intervals by rangers from Lake Station. The bands in this district are fewer and larger and the country is more open and accessible resulting in less variance in the counts. It appears that the herd is about equally divided as the maximum counts from both districts is identical (33). These counts make a total of 66, which is the largest actual count submitted in recent years.

The estimated total of this herd as submitted last fall was 85. A loss of 1 was reported in March which consisted of a cow that winter killed on the Upper Lamar.

Bear: - black: Bear have been observed and reported throughout the month at all points commonly frequented by them. There is nothing unusual to report in connection with their appearance except that one in the Bechler River District has developed predatory tendencies and is reported to have killed 6 elk in about as many days. This bear when last reported had not been located. It may be necessary to destroy him to prevent further elk losses.

The estimated total of black and brown bear in the entire park area as submitted last fall was 200.

The reported losses occasioned by hunters at points adjacent to the park since last September is 5.

Bears - Grizzly: The estimated total within the park area last fall was placed at 60. A reported loss of 3 was occasioned by hunters at points adjacent to the Park during the season. A few grizzly signs have been recently observed but the bears themselves have thus far escaped observation.

Small Animals: Numerous signs of otter, marten and mink were observed and reported throughout the winter. Marten were particularly plentiful at Lake and Canyon. Otter were frequently observed on the Madison, Gibbon and Gardiner Rivers, on Lava, Blacktail and Pebble Creeks, and in the Yellowstone Lake region. Weasel were quite common in the Lake District. Extensive new beaver workings have occurred in the Bechler and Gallatin Districts, also at points near Mammoth, Tower Falls and Buffalo Ranch. New work has been observed near their old huts on Lava Creek and at Beaver Lake. The beaver population is undoubtedly increasing at all points.

The red fox appears to have been more plentiful than usual during the past winter season.

Lynx signs were commonly reported, particularly on the Upper Lamar, in the Gallatin and South Riverside Districts and in the Upper Yellowstone country.

Predatory Animals: Wolves are reported to have been seen early in the fall. Three were reported at Heart Lake and an unconfirmed report by two members of a road crew was to the effect that a pack of 12 had been observed at Elk Park. No further reports were had of wolves or wolf signs throughout the fall and winter seasons.

Lion signs were reported at intervals during the season in the Hellroaring and Grayling Districts and at points along the Madison River about 7 miles below Madison Junction. A very large male lion was killed in the Hellroaring District late in November. Coyotes were numerous early in the season and an unusually large number were killed prior to the cold wave of mid-December. The kills for January, February and March were far below the figures of last year despite the persistent efforts of the men in the field. They were unapproachable, rarely seen and could not be lured by bait. They reappeared in late March and early April in increasing numbers but the rangers during this period were chiefly engaged with other duties and the kills were not numerous. Only 3 kills were reported in April. They occurred in the Mammoth-Gardiner district. The season's total to March 31, was 169; the total this season to date is 172 as compared with 221 on April 30th last year.

Water Fowl: Ducks and geese were plentiful on the Yellowstone Lake and River prior to the cold wave of mid-December. 52 swan were observed at the outlet of Yellowstone Lake about December 1st. The reappearance of ducks and geese was reported on the Madison and Yellowstone Rivers immediately following the breaking up of the ice in these streams in February. The reappearance of swan was reported in March.

Summer Birds: The appearance of summer birds was first noted late in February. They were commonly seen at Mammoth throughout March, particularly blue birds and robins.

Buffalo and Other Ranch Operations

Slough Creek Ranches: There were no activities of note at either of the Slough Creek Ranches during the month. There is a balance of 2 tons of hay at the Upper Ranch and 4 tons at the Lower.

Buffalo Ranch: Buffalo feeding was concluded on the 4th. Nineteen tons of hay were fed during the month, leaving a balance of 30 tons on hand. The activities at this point have mostly consisted of repairs, maintenance and cleanup work together with the regular routine of the ranch.

Yancey Hay Ranch: There were no activities at this point during the month. There is an unused balance of 2-1/2 tons of hay which will be used in connection with the plowing and seeding operations that will occur here early in May.

Gardiner Hay Ranch: Plowing, cultivating and seeding was in progress here from the 10th to the 28th, about 45 acres being turned and seeded to oats. This land had not been plowed for 7 or 8 years. It was heavily sodded and required an extraordinary amount of horse power and labor to prepare it for seeding.

The National Park Service and ranger horses were fed at this point during the first 15 days of the month, a total of 9 tons of old hay being accounted for, leaving a balance of 8 tons of old hay. Twenty-two head of work horses were fed at this point from the 10th to the 29th, accounting for 6 tons of new hay and leaving a balance of 29 tons of new hay on hand.

VI. MUSEUM, NATURE GUIDE WORK, EDUCATIONAL WORK.

Various shrubs were located and identified and tagged for transplanting on the grounds at Mammoth, in accordance with duly approved plans, and assistance was later given in their actual removal for transplanting.

Plans were completed, ground inspected and staked, for the building of a flying cage at Mammoth in connection with the prospective Zoo for tourist benefit.

Larger and more adequate temporary quarters were made for the accommodation of animals, particularly birds, which are to be caught for the Zoo.

Considerable time was given to trapping various birds for the Zoo and in the meantime a search was made for dens of desirable quadrupeds for the same purpose.

Several ink drawings were made and duly sent to Yosemite National Park, upon application for the same, for use as illustrations for the "Yosemite Nature Notes."

Work was done upon two magazine articles concerning wild life subjects.

Studies were made, particularly of beaver, mink, muskrat, antelope, Barrow goldeneye ducks, about Mammoth and from Mammoth to Blacktail Deer Creek and vicinity. Field notes and sketches were accordingly made for later publication in "Nature Notes from Yellowstone Park."

Feeding and general care of the small animals on hand for the Zoo was continued as part of the regular routine duties.

Much of the work on volume 2, number 2 of the Nature Notes has been finished and preparation of the actual stencil sheets for mimeographing begun.

Mr. Charles Phillips, Park Ranger, who will assist the Park Naturalist, arrived here on the 27th. Considerable time has been given to making him acquainted with conditions and surroundings here and to plans in general due to the arrival of an assistant in this department.

VII. MISCELLANEOUS.

Religious Services

English Lutheran services were held in the Lodge Room in the Canteen by Rev. Geo. C. Koehler on the evenings of April 2, 16 and 30.

Episcopal services were held in the Chapel on Easter Sunday, April 12, by Rev. Wm. Friend Day, in the morning; also morning services were held by Rev. Day in the canteen on the morning of April 26.

Permits

Mr. Charles W. Herbert, Northern Pacific Railway, St. Paul, Minn., was granted a permit on April 18 to take motion pictures in the Park.

Cordially yours,

PETER E. BILKERT
Acting Superintendent.

The Director,
National Park Service,
Dept. of the Interior,
Washington, D.C.

ARM

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

MONTHLY METEOROLOGICAL SUMMARY.

Station, YELLOWSTONE PARK, WYO.; month, A P R I L, 1925., 19

Date.	TEMPERATURE (Degrees Fahrenheit.)			Precipitation. (In inches and hundredths.)	Character of day.	Sunshine, per-cent.	ATMOSPHERIC PRESSURE. (Reduced to sea level; inches and hundredths.)		
	Max.	Min.	Mean.				Mean	lowest	
	48	27	38	0	Cloudy	11	29.95	30.63	28
	55	32	44	0	PtCldy	76	29.21		22
	57	26	42	0	PtCldy	68			
	56	28	42	T	PtCldy	40			
	44	32	38	.57	Cloudy	7			
	38	31	34	.15	Cloudy	0			
	45	30	38	T	Cloudy	32			
	55	28	42	0	PtCldy	73			
	62	30	46	0	Clear	100			
	63	34	48	0	PtCldy	85			
	64	34	49	.13	PtCldy	69			
	52	38	45	.04	PtCldy	41			
	54	35	44	0	Clear	98			

Mean for this month in									
1871	80	89	43	98	40	07	34	16	38
1872	81	90	39	99	36	08	39	17	31
1873	82	91	41	00	42	09	31	18	33
1874	83	92	42	01	36	10	43	19	39
1875	84	93	31	02	37	11	34	20	31
1876	85	94	38	03	37	12	36	21	35
1877	86	95	--	04	39	13	38	22	33
1878	87	39	34	05	37	14	38	23	35
1879	88	43	38	06	38	15	45	24	36
Normal for this month			37.0					25	40
Absolute maximum for this month for			38					years	77
Absolute minimum for this month for			39					years	-3
Average daily excess (+) or deficiency (-) of this month as compared with the normal			43.2						
Accumulated excess (+) or deficiency (-) since January 1									518
Average daily excess (+) or deficiency (-) since January 1									4.3

PRECIPITATION.									

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK

OFFICE OF THE SUPERINTENDENT.

April 23rd 1925.

Circular Number 2.

During the present season the charge at stations for meals served to motorcycle rangers while on duty in the park will be three meals for one dollar.

Motorcycle men will settle for their meals at all park stations within their own districts, and no accounts for meals served to members of the motorcycle squad will be submitted to this office for collection.

The only exception to this rule will be when members of this squad are ordered from their district on official business, when upon presentation of the proper travel order they will be furnished meals and allowed to sign for the same.

Such accounts will be paid at this office at the regular rate of fifty cents per meal. However, this will not be done unless the travel order is presented.

Signed. HORACE M. ALBRIGHT,
Superintendent.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK
Yellowstone Park, Wyo.

OFFICE OF THE SUPERINTENDENT.

April 23rd

192 5.

Circular Number 3.

No ranger will be allowed to travel outside his own station district, and visit other sections of the park, on either official or unofficial business without a regulation travel order. No such order will be issued except by authority of the Chief Ranger's Office.

Travel orders are issued to each station and are numbered consecutively. When a man is going to travel from one station to another in the park permission will be secured from the Chief Ranger's Office and if such permission is granted the station chief will issue the required travel order and will indicate whether the trip is official or unofficial.

Before serving meals to rangers aside from their own station force men in charge will require that this travel order be presented. If the trip is official the man will be allowed to sign for his meals, and the account will be settled by this office. If the trip is for unofficial purposes the ranger will be required to pay cash for meals.

This office will not make collections for meals served to men on unofficial status.

As soon as the trip is completed the travel order will be returned to the station chief, who will send it to the Chief Ranger's Office. He will also indicate the time of the beginning and the ending of the trip, and the reason therefor.

The ranger in charge will be held responsible for the return of such orders to the office, and will impress upon the minds of the men under his charge the importance of turning in these orders at the end of any trip.

The Chief Ranger and Assistant Chief Rangers are exempt from the above regulations.

HORACE M. ALBRIGHT,
Superintendent.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK
Yellowstone Park, Wyo.

OFFICE OF THE SUPERINTENDENT.

April 23rd 1925.

Circular Number 4.

The attention of all rangers is called to paragraph # 41 of the Manual of Park Rangers:-

"Unusual Events:- Special Reports. Unusual occurrences such as accidents, deaths, changes in natural phenomena, etc., will be reported at once to the Chief Ranger's Office by phone. This should be followed by a detailed written report of the same. This is an important duty in connection with ranger work. It is necessary that a complete record be kept of all events of this kind, and especially in the case of accidents and death. When rangers hear of accidents or deaths they will proceed at once to the scene of the same, if possible, and gather full details as to the names, addresses, causes or any other essential information regarding the event, and make a written report of the same to the Chief Ranger's Office. Statements of the witnesses of the event are especially valuable and should be taken at once in writing."

During the past season there have been several accidents in the park that have not been reported by rangers, and the office has had to rely on outside sources for data. It should be kept in mind that no accident is so small that it may not cause complications later and should consequently be reported at once. The telephone report is desired only in order that we may keep in touch with events in the park, but the written report of the ranger or rangers who make the investigation is necessary for record purposes. In case of an accident rangers should never rely on second hand information, but should talk to the people concerned in person.

In addition to the cause, time and place of events resulting in personal injuries or death the name of the attending physician is absolutely necessary, and all these facts will be reported in writing.

In future all rangers will see that paragraph # 41 quoted above is complied with in every detail.

Signed. HORACE M. ALBRIGHT
Superintendent.

Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming.

April 25, 1925.

CIRCULAR NO. 6.

At the instigation of Mr. H. McFarland, Fire Chief, a meeting was recently held for the purpose of promoting better fire fighting facilities and methods. With the recent fire which destroyed much valuable property at Mammoth Hot Springs fresh in mind, it is believed that if the procedure briefly outlined below is carefully memorized, our local fire fighting department will function even more efficiently than heretofore.

At sound of fire alarm, ALL male employees are to respond.

All employees, and volunteers, absolutely to obey orders emanating from Fire Chief, or Assistant Fire Chiefs, except where requested to perform services where danger to life or limb is greater than willingly assumed.

All hose carts, (with exception of hose cart in rear of McDonald quarters when it is a fire drill not in that vicinity) including ladder wagon, must arrive.

NO MALE EMPLOYEE WILL BE PERMITTED TO LEAVE SCENE OF FIRE, OR DRILL, WITHOUT PERMISSION FROM FIRE CHIEF.

Lawn sprinklers and faucets to be shut off immediately when alarm is sounded.

~~XXXXX~~ Hose lines are to be run and water actually to be played at all drills.

Your hearty cooperation is desired at all future drills. Look for, and report, fire hazards.

Your presence is required and your absence from drills will have to be explained.

P. E. BILKERT
Acting Superintendent